Clinical Dialogues

A Conversation With Terence M. Keane, Ph.D., Director of the Behavioral Science Division of the National Center for Posttraumatic Stress Disorder

Interviewed by Brian P. Marx, *Boston VAMC*

MARX: The editor of *the Behavior Therapist* asked me to talk with you about your 1985 paper entitled "A Behavioral Formulation of Posttraumatic Stress Disorder in Vietnam Veterans" (Keane, Zimering, & Caddell, 1985). As it happens, that paper is the most cited *tBT* paper of all time. I have a few questions for you about the paper, as well as some questions about contemporary issues in the trauma field. Let's start by talking about the origins of the paper.

KEANE: I think this was the last paper that I wrote at the University of Mississippi Medical Center, where I spent quite a few years early in my career. The paper was invited because we had published a considerable amount of the initial work on this topic (PTSD). This paper was coauthored with Rose Zimering, Ph.D., who is currently at VA Boston Healthcare System and Boston University, and Juesta Caddell, Ph.D., who is a senior scientist at the Research Triangle Institute in North Carolina. Both have remained very active in the trauma field.

Working with people like Patti Resick, Dean Kilpatrick, and John Fairbank, all of whom were very active in the earliest stages of PTSD work, we made a very conscious decision to provide the best PTSD education to AABT members. The result of this was a series of symposia, workshops, and panels on the concepts of PTSD at AABT in the early 80s. We worked very hard to try to educate the AABT members about what we were learning about PTSD. No other conference had as much about PTSD as did AABT! This paper was a result of a communication with the editor of *the Behavior Therapist*, who invited us to provide a behavioral formulation of PTSD.

MARX: Looking back on it now, would you do anything differently? Would you revise the model you presented?

KEANE: There was at the time a considerable amount of tension between those people who were entering cognitive variables into their theoretical models and those who remained purely behavioral in their views. I was very strongly encouraged to remain quite observable in my conceptualization and interventions during the course of my training at Binghamton University and at Mississippi. So what I tried to do here was integrate models that had been applied to anxiety disorders before and extrapolate them to PTSD. The models that I examined included key conceptualizations found in early behavior therapy. Certainly, Dollard and Miller's work was influential, as was the work of Hobart Mowrer and Don Levis. All of these conceptual models influenced my take on this emerging condition. So, the pressure for me was to remain observable in the heuristic model when I knew that this condition was characterized by cognitive and emotional processing problems characterized by the nightmares, flashbacks, and preoccupations with traumatic events. I was, I think, working as hard as I could, perhaps swimming or paddling upstream, to remain true to a strongly behavioral formulation and, at the same time, I knew that the primary contribution that I was making was the notion that we could *treat* cognitions (i.e., thoughts and images of the traumatic event) much the same way that we treated behaviors. In sum, if trauma survivors were avoiding cognitions, then perhaps a treatment that might be helpful would be the presentation of those very cognitions. That was the contribution that was represented in this article. I think that is why it is still cited so often and why people appreciate it. We went a lot further in attributing the disabling psychopathology associated with PTSD to these cognitions. So, would I do it differently? I have done it differently. I certainly have added a wide variety of cognitive components over the years, recognizing some of the limitations. And, actually even writing this manuscript made me realize exactly how limited the more behavioral models were, valuable nonetheless, but limited because you were not really addressing what seemed to be the fundamental sources of conflict for these people—that is, the highly emotionally laden thoughts and images of a traumatic event.

MARX: Let's talk about the cognition piece a bit more. That domain of PTSD has garnered a lot of attention these days from both clinicians and researchers.

KEANE: I was in training from 1973 to 1977 at Binghamton and I can remember attending the first CBT conference in New York City, and hearing many of the people responsible for the cognitive revolution in behavior therapy, including Albert Ellis, Michael Mahoney, and Donald Meichenbaum. I thought that was all very interesting but I never thought it was going to go anywhere *[laughs]*. And, then when I began this work on traumatized war veterans, Peter Lang's paper describing his conceptualization of anxiety was published. It was right at the time that we were beginning to develop programs for PTSD war veterans as well trying to understand the problems of these patients. I can remember having a lengthy conversation with our research group in Mississippi about trying to take Peter Lang's conceptualization of anxiety and apply it to PTSD. I actually had even spoken with Peter Lang on a couple of different occasions and he basically encouraged me to not think of this as a disorder but to think of this as anxiety. He thought that the diagnostic categories might not be particularly useful and that maybe PTSD was not distinguishable on meaningful variables from other kinds of anxiety disorders. Now that's a point that is still open for discussion. It was very clear to me that I was becoming increasingly interested in the cognitive components right from the outset. Yet, when the editor of *the Behavior Therapist* asked me to write what my position was I felt like I needed to rely much more on the observable. I was probably wrong, I probably could have been much more cognitive then, yet I was worried that it wouldn't be received as well. It is hard to second guess things, but it's amazing to me where I see this paper cited; it gets cited in very diverse places, in chapters in other disciplines, and in grant applications. So I think that may account

for some of its popularity. It's very exciting to me.

MARX: Yes, absolutely. My thinking about cognitions has always been very behavioral. I consider thoughts to be another form of behavior.

KEANE: I would encourage you to read Howard Gardner's book, *The Mind's New Science: A History of the Cognitive Revolution* [1987]. He was here at the VA Boston when I first moved here.

MARX: I think I remember that.

KEANE: He probably might have even overlapped with you when you were a technician here. There is nothing more painful for an operant or behaviorally oriented scientist to read Howard Gardner's account of the importance of language and cognitions to a comprehensive understanding of human behavior, and certainly being at VA Boston, which is one of the premiere institutions for behavioral and cognitive neuroscience in the world, led me to feel very comfortable about espousing the importance of cognition in understanding PTSD. You will see over the course of the late 80s, early 90s, the kinds of studies that were done here actually incorporated many cognitive variables and cognitive paradigms.

MARX: Right. And it certainly is the case that your work as well as that of others has led to important advances in understanding cognitive biases related to PTSD.

KEANE: Soon after he moved to Boston, I teamed up with David Barlow to work on an extension of his conceptual model of anxiety to PTSD. That's a model that I personally find extremely important and have been relying upon for designing subsequent projects. I can remember initially reading a paper by Edna Foa, Gail Steketee and Barbara Rothbaum [1989] that appeared in a special issue of *Behavior Therapy* that I edited. This was an important paper in that it was the first paper that extrapolated Lang's theory to forge a cognitive understanding of PTSD. When I read it I was so deeply impressed by it; they really did this in a compelling way. Edna was more advanced in her career and she had already published her *Psychological Bulletin* [1986] paper with Michael Kozak, which took Peter Lang's work and applied it to anxiety disorders. She was more willing than I to take the risk. I appreciated it very much. It was probably more of what I should have done when I wrote the *tBT* piece in 1984, but I didn't have the confidence to do so whereas she was already very well established. This was all very important at this time because there weren't very many people studying PTSD from an evidence-based perspective. Patti, Dean and I and a few other people in the world were at this point already quite active, but there were not that many others. At one of the workshops at AABT that Patti and I conducted in the mid-80s, I remember getting ready to begin when Edna Foa and Barbara Rothbaum entered the room. I can remember commenting to Patti on learning that Edna was applying for NIH grant money to study rape-related PTSD that the field was going to change dramatically—and I was right, absolutely right. The entrance of somebody senior like Edna was going to affect people's interest and the progress that was made in studying PTSD, and she has had a huge impact on the field. When you think of the many academic honors bestowed upon Edna, Dean, Patti, and myself, it's largely due to the early work on PTSD. It opened up an entirely new arena for clinical care, research, and teaching.

MARX: And what do you think that is about? I mean obviously some of this has to do with the fact that the work has been excellent.

KEANE: The work has been consistently strong; the studies borrowed from anxiety disorders but I think this work opened up another whole field of inquiry and practice to behavior therapists. As you may know, there are large numbers of people who study PTSD who were trained in the AABT tradition. And if you go to the trauma conferences, you see just dozens and dozens of the very same people who will the next week go to ABCT and vice versa. It's a very impressive thing. Perhaps a lot of the educational work that we did in the early 80s attracted a lot of very smart and dynamic people to our organization.

MARX: What was the social climate regarding PTSD like when you wrote this paper?

KEANE: The climate had changed already by 1984, but I do remember giving my first lectures on PTSD starting in about 1980, and because there weren't that many people studying or working on the problem I tended to get a lot more invitations than somebody a couple years out of internship. What happened very early was that I was often invited to speak for the sole purpose of becoming a target for

others who had ideas about what shouldn't happen in the field or work that constituted a diversion into areas that were faddish and not scientifically based. It was common for years for me to have to take a deep breath as I walked in front of an audience, because while there would always be people who were very sensitive to the issues that I was raising, there were typically going to be naysayers, and these were at times very vocal, very senior, and very powerful people who would try to point out where I had gone wrong in my thinking about this disorder. But, by 1985 it had changed for the better.

MARX: And it seems now that the pendulum has swung back in that direction.

KEANE: Well, at ISTSS [International Society for Traumatic Stress Studies], this year there was a panel of some very senior people talking about this pendulum and represented were people from Columbia, Harvard, Boston University, Research Triangle Institute, Medical University of South Carolina, etc. The position that I took in my presentation of the various arguments that have emerged in the last 10 years is that this is common, that it is important for there to be controversy, and that it is an important indicator of how central this field is to an understanding of human behavior that people feel very ardently about various issues. But I think it is undeniable that serious, stressful life events and situations can influence the trajectory of people's lives. Most of the time it's short-lived, but for others the effects linger. And certainly there are multiple risk factors, like in any other condition. There are personal risk factors, there are contextual risk factors, and there are biological risk factors. But, we need more information about them as well as how these factors influence the exact shape and form of PTSD longitudinally. I don't believe that even the harshest critics disagree with this summary.

MARX: I guess, for a slew of reasons, professionals who are working with PTSD have had to justify its existence far more so than other *DSM* disorders. There's a whole upcoming issue of *Journal of Anxiety Disorders* focused on problems with the diagnosis. Have you seen that?

KEANE: I did actually get a chance to read virtually all of the papers and, honestly, there wasn't a single criticism that I hadn't heard before. I think those criticisms exist and people who are working scientifically in this field know these criticisms. The *DSM* committees have discussed these as long as I've been on the committees (since 1984) and appreciate what some of the limitations are and that we are working with a categorical system that guides things whether it is the ICD or the *DSM*. We have problems with the boundaries for all these *DSM* disorders. There is nothing about PTSD that's exceptional.

MARX: Well, there may be in one sense, and that is that the *DSM* requires a causal event to meet criteria for PTSD.

KEANE: Well, yes, but so do adjustment disorder and acute stress disorder. But, you are correct that it is seen by some as a concern. Look at the conceptual model with Barlow. It's also referred to by some people as the triple vulnerability model. Triple because of the assigned responsibility to the psychological vulnerability, biological vulnerability and the event itself. So, I don't see that as being particularly troublesome. Rather, I see it as state of the art.

MARX: Neither do I. The diathesis-stress model has been around a long, long time, but for some reason PTSD seems to be disproportionately criticized. Perhaps it's because of the related issue of malingering.

KEANE: I do believe that the problems associated with any of our categories in this system are comparable across the Axis I. I personally think that the measurement of PTSD is as good as, if not better than, any of the Axis I conditions and virtually all except for antisocial personality disorder on Axis II. We have excellent reliability of all kinds, validity information of all kinds, and utility suggesting that we are in the .90 range of sensitivity, specificity, etc. Look at how much explanatory variance PTSD as a construct has contributed to our understanding of how adverse experiences affect people. Parsimony alone should tell you that this is a very useful construct. Structural equation modeling studies like those done by Dan and Lynda King are largely ignored by the critics, yet they predict 70 percent of the variance in psychological outcome variables. How do you dismiss that and say, "Well, it's not a big deal"?

MARX: So, is there a way to satisfy these critics in some way? Is there a solution to these disagreements?

KEANE: Of course, scientific inquiry is always a solution. Let me just say that the good news is that the ecological validity of PTSD is established. The attacks on New York and Washington, DC, had such a profound impact on the widespread understanding of what a traumatic event is and what PTSD is. Now, you go to a cocktail party and say you work for the National Center for PTSD and everybody knows what that is. Before, you would have to spell it out or you would have to say you work at a research center that studies the effects of war. Now, everybody understands. Trimming around the edges, which is what I think some of these critics are pushing, isn't a bad thing, necessarily. It's good to reconsider the limits of our definitions, the limits of our field, the limits of our methods, measures, the paradigms that we use and then to move forward.

MARX: What kinds of future challenges do you see for the field?

KEANE: I think that they are the same challenges that are facing mental health broadly. We have treatments that help people. We need people to continue to research and disseminate, effectively disseminate, evidence-based treatments. Under Toni Zeiss (AABT Past President), the VA is making very systematic efforts to train psychologists and others in evidence-based cognitive behavioral treatments. We need to know more about dissemination science. It is the case that there isn't a city in this country that is stronger in terms of the large number of PTSD experts we have, yet it is very hard for us to find a referral in the city of Boston that can do either cognitive therapy, cognitive-behavior therapy, or exposure therapy. We've got to address that issue. I think, secondly, we need to better understand the psychological and biological vulnerabilities for PTSD. We've rounded up the usual suspects at this point, but are there other variables we should be examining to determine the risk factors that might lead to the development of PTSD? Then, there's something that Brett Litz is working on, specifically, to develop interventions to manage PTSD in its early stages among combat soldiers and emergency service responders. I think we need to learn more about cultural differences in response to trauma exposure and then to know how to help other populations to address these problems. I have had the opportunity to go to Southeast Asia, the Middle East, and Africa, and I've seen how few resources exist for people in these parts of the world. The disproportionate allocation of mental health resources in the U.S. versus these other parts of the world is astounding. Yet, PTSD is present

in every country in which it's been studied. It is truly a cross-cultural diagnostic entity. I recently went on a NIMH-sponsored visit to Peking University where they were establishing their Institute of Mental Health and one morning I was reading the English-language Chinese paper where an article estimated that accidents and disaster in China each year affected millions of people. Of course it was a relatively small percentage of the population, but I think it was something in the neighborhood of about 8 million people on an annual basis. And those estimates didn't include other types of violence and abuse. So, we have tremendous challenges still ahead of us.

I'll just close by saying that when I was a Fulbright Scholar at Trinity College Dublin some years ago, I had the pleasure of spending some time with George Albee, Ph.D., formerly of the University of Vermont. He was the distinguished faculty visitor at Trinity for about a week. George was one of the key people in establishing prevention science in the mental health field. When I described my work to him, he responded instantly that there couldn't be and would never be enough professionals in the world to tackle the problems associated with traumatic events. He strongly encouraged me to think about paradigms that would focus on prevention. So, this is the next important set of priorities: prevention and cross-cultural work.

MARX: Thanks very much for your time. It's been a pleasure.

KEANE: Thank you.

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Clinical Forum

Empirically Supported Self-Help Books

John M. Malouff and Sally E. Rooke, *University of New England, Armidale*

Search for self-help books at Amazon.com, and you will find hundreds of self-help books for psychological problems. There are books to help individuals overcome everything from alcohol abuse to vaginismus. Many of the books follow this format: description of the problem accompanied by the stories of several individuals who have experienced the problem, information relating to deciding whether one has the problem, description of cognitive and behavioral methods to use to overcome the problem, presentation of stories of individuals who made the changes and benefited, and suggestions about what to do if the problem persists (e.g., see a health professional). Some of the books contain much or all of the content of cognitive-behavioral treatment for a specific type of problem. For instance, in his popular self-help book *Feeling Good: The New Mood Therapy*, David Burns (1980) encourages readers to overcome depression on their own. The book includes information on diagnosing the level of depression, applying cognitive and behavioral techniques, and using relapse prevention methods. Anecdotes of individuals who tried and benefited from the suggested techniques are provided throughout the book.

It is now common for psychotherapists to recommend self-help books to clients as an adjunct to psychotherapy (Adams & Pitre, 2000; Pantalon, Lubetkin, & Fishman, 1995; Starker, 1988). This situation raises a modern version of Hans Eysenck's famous question about whether psychotherapy works: Do self-help books actually help?

Several studies have tried to answer that question. In the typical study that has examined the efficacy of self-help books or a shorter self-help manual created for the study, a mental health professional gives a randomly assigned portion of the research participants with a specific disorder a self-help book or manual, asks them to read it, and tells them that they will be asked later about their progress in reading the book. Sometimes the mental health professional later questions the participants about the content of the book (e.g., Gould, Clum, & Shapiro, 1993). Other conditions might include participants serving as a waiting-list or treatment-as-usual control or participants reading an attention/placebo book (e.g., Carter et al., 2003) or receiving individual psychotherapy (e.g., Gould et al., 1993). Outcomes are usually assessed with self-report measures of the relevant type of psychopathology.

Meta-analyses of bibliotherapy efficacy studies (testing self-help books or unpublished self-help manuals) have shown medium effect sizes for bibliotherapy across various types of disorders (Gould & Clum, 1993; Marrs, 1995), with larger effect sizes found for depression (Anderson et al., 2005; Gregory, Canning, Lee, & Wise, 2004; McKendree-Smith, Floyd, & Scogin, 2003). Overall, the studies have found bibliotherapy effect sizes similar to those produced by individual psychotherapy for the same type of problem (den Boer, Wiersma, & van den